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Rethinking growth and survival of hospitality industry in Jordan: the role of responsible and resilient leadership styles in managing crisis

Raed Hussam Alzoubi^a , Baker Shnaikat^a, Maisoon Abo Murad^a , Rami Al kloub^a, Ma'een Alhmesat^a and Omar Hamdan Mohammad Alkharabsheh^b

^aDepartment of Administrative Sciences, AL-Balqa Applied University, As-Salt, Jordan; ^bDepartment of International Business, Faculty of Accountancy and Management, Universiti Tunku Abdul Rahman, Petaling Jaya, Malaysia

ABSTRACT

The crisis in Jordan has had disastrous effects on the national economy, particularly impacting the hospitality sector. Confronted with dramatic uncertainty, hospitality leaders must rapidly nurture responsibility and resilience. To enhance our understanding of how responsible and resilient leadership responds to such shocks, we aim to investigate if responsible and resilient leadership styles can foster crisis management in the hospitality sector through the mediating path of knowledge management, and the moderating role of digital transformation using the conservation of resources (COR) theory to support our hypotheses. This theory asserts that organizational resources facilitate effective crisis management, implying that adequate resources and support systems enable organizations to navigate and recover from crises effectively. Data was gathered from 154 owners and senior managers in the hospitality sector, and the proposed relationships were evaluated using partial least squares structural equation modeling (PLS-SEM). These findings imply that responsible and resilient leadership styles significantly influence crisis management. Furthermore, knowledge sharing mediates the relationship between these leadership styles and effective crisis management. Finally, the study identifies digital transformation as a significant moderator between knowledge sharing and crisis management. This research contributes to the existing literature on leadership and crisis management by demonstrating that, during times of crisis, leadership characterized by responsibility and resilience enhances crisis management within the hospitality sector.

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Introduction

The growth and survival of tourism and hospitality firms in dynamic economies are particularly vulnerable to safety and crisis occurrences (Xie et al., 2022). In the current phase of development, significant crises have emerged that pose considerable threats to these industries, especially in affected regions, leading to a negative impact on the global tourism market due to their cascading effects. This fragility underscores the need for proactive crisis management techniques and effective safety controls to mitigate potential threats and ensure the stability and growth of tourism and hospitality firms. The global crisis, exemplified by the COVID-19 pandemic, has forced tourism and hospitality firms to shut down their operations (Zhang et al., 2023). This unprecedented challenge underscores the critical importance of crisis management and the adoption of adaptive strategies for survival. As noted by Zamoum and Gorpe (2018), the ability of organizations to endure turbulent times hinges on their crisis management capabilities, particularly in sectors like tourism and hospitality that are highly vulnerable to a wide range of disasters and crises (Abo-Murad & Abdullah, 2019).

CONTACT Raed Hussam Alzoubi  raed.alzoubi@bau.edu.jo  Department of Administrative Sciences, AL-Balqa Applied University, As-Salt, Jordan

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In recent years, the hospitality sector in Jordan has experienced rapid growth, becoming a crucial part of the Jordanian economy (JIC, 2018). With an estimated population of 10 million, Jordan welcomed ~5.3 million tourists in 2019, prior to the COVID-19 crisis (MOTA, 2020). In that same year, the tourism industry employed 53,488 people, including 20,918 in the hotel sector, accounting for 4.5 percent of the Jordanian workforce (Alsheyab et al., 2023). Jordan's tourism infrastructure is extensive, comprising over 2,200 institutions, including various hospitality establishments. Among these, 610 are hotels, with 41 being five-star hotels (MOTA, 2020). The contemporary business environment for the hospitality and tourism sector is increasingly dynamic and complex (Murad et al., 2021). Therefore, it is crucial to implement viable solutions to mitigate the negative effects of such crises and maintain business continuity by equipping businesses with the necessary skills and information.

Crisis management is a continuous effort aimed at preventing or mitigating negative outcomes through actions taken before, during, and after a crisis (Hede, 2018). In the hospitality and tourism sector, crises such as terrorist attacks, social unrest, forest fires, hurricanes, and transport accidents are particularly impactful. Studies have demonstrated the necessity for dynamic leadership roles to navigate crises effectively and achieve positive organizational outcomes (Bowers et al., 2017). Within an organizational setting, the crisis management process requires immediate and deliberate action, highlighting the crucial role of leadership in preparing for contingencies and addressing threats to organizational continuity (Kim et al., 2021). Most previous studies on hospitality leadership during crises have focused on corporate leadership narratives (Im et al., 2021), leadership scenario predictions in a post-pandemic world (Shukla et al., 2023), and reinforcing organizational corporate social responsibility commitments (Filimonau et al., 2020). While some leadership styles make valuable contributions, the current state of knowledge about how various other leadership models influence crisis management in hotels remains limited. Research indicates that in crisis situations, essential roles include resilience and responsibility (Kim et al., 2021; Irfan et al., 2023). Responsible and resilient leaders are dedicated to their organizations' well-being and embody key roles that inspire others through effective communication. Furthermore, the effectiveness of crisis management hinges on a leader's capacity to anticipate potential crises and make sound decisions accordingly (Valackiene, 2010).

Responsible leadership is characterized by a commitment to accountability and a focus on addressing the needs and concerns of various stakeholders, with particular emphasis on those for whom a leader bears direct responsibility (Cameron, 2021). During crises, significant situational uncertainty creates vulnerabilities for stakeholders within organizations (Bailey & Breslin, 2021). In such contexts, organizations play a crucial role in alleviating negative emotions and addressing psychological imbalances, primarily when guided by responsible leadership (Bartsch et al., 2021). Empirical studies have examined the relationship between responsible leadership and individual job outcomes (Liao & Zhang, 2020; Wang et al., 2021; Luu, 2023). However, the significant impact of responsible leadership on organizational job outcomes, particularly in the context of crisis management, remains largely unexplored in previous research.

The hospitality industry is currently navigating an exceptionally challenging operating environment, underscoring the necessity for a comprehensive examination of leadership styles (Elkhwesky et al., 2022a; García et al., 2022; Huertas-Valdivia et al., 2022). The industry faces additional challenges and unprecedented events, such as the COVID-19 pandemic (Zhang et al., 2020; Salem et al., 2021), which have further highlighted the need for researchers to generate evidence-based knowledge to aid management in navigating these complex environments (Arici et al., 2021). In this context, academics have emphasized the necessity of further understanding responsible leadership in future research (Haque et al., 2021). Advancing this field requires exploring how organizations can implement responsible leadership (Tsui, 2021), and conducting empirical research to assess its impact on organizational outcomes (García et al., 2022).

Resilient leadership entails guiding teams through challenges, navigating adversities, and fostering business growth by adeptly responding to crises (Fang et al., 2020). Such leaders encourage adaptation and a proactive approach to overcoming obstacles, crucial in navigating unpredictable circumstances and fostering long-term success. Understanding resilience characteristics is essential for leaders confronting obstacles and steering their teams toward sustained achievement (Albuquerque Pai et al., 2023). Previous research has highlighted a relative lack of exploration into resilience responses from a leadership perspective during crises (Zhang et al., 2023). While existing studies have predominantly focused on

employee and organizational resilience (Saad & Elshaer, 2020; Chen & Qi, 2022; Hall et al., 2023), the role of resilient leaders in fostering recovery and adaptation has received limited attention (Fang et al., 2020). Previous research has primarily assessed the impact of crises on hospitality and tourism enterprise leaders and developed crisis management strategies accordingly (Ivanov & Stavrinoudis, 2018; Giousmpasoglou et al., 2021; Xie et al., 2022). However, these studies have often overlooked resilience responses specifically from a leadership perspective. Thus, further investigation into this area within the context of hospitality and tourism is warranted (Zhang et al., 2023).

Moreover, research by Haque et al. (2021) and Zhang et al. (2023) underscores the necessity for further academic exploration into responsible and resilient leadership styles, alongside other mediation and moderation mechanisms (Castellano et al., 2021; Javed et al., 2021) critical for crisis management. Addressing these gaps, Bundy et al. (2017) advocate a holistic approach to understanding crises, emphasizing integrated perspectives that consider multiple variables and focal points of analysis. Our study contributes to the crisis management research field by investigating the impact of responsible and resilient leadership within the hospitality sector. This exploration aims to enhance organizational readiness and effectiveness in handling crises, building on the insights proposed by previous studies. This research explores the principles of responsible and resilient leadership through the lens of the Conservation of Resources (COR) theory (Hobfoll et al., 2018). According to COR theory, individuals strive to acquire and preserve organizational and personal resources. In the context of leadership, assuming responsible and resilient roles within an organization is viewed as an acquisition of valuable organizational resources. These resources, in turn, contribute to enhancing individuals' personal resources. For instance, leaders develop strategies to effectively manage crises, thereby minimizing adverse impacts on organizational outcomes. Building upon COR theory, Gupta and Kumar Singh (2023) propose that leadership characterized by responsibility and resilience acts as organizational resources. Such leadership fosters the cultivation of both organizational and personal resources. This cultivation includes the development of strategies to navigate crises effectively, thereby mitigating their negative effects on organizational outcomes.

Drawing on recent systematic literature reviews by Haque et al. (2021) and Zhang et al. (2023), we integrate the model of crisis management (Zhang et al., 2020) with COR theory (Hobfoll, 1989). We expect knowledge sharing, defined as the transfer of experiences and knowledge among employees and the organization (Wu, 2016), to act as a mediator. This mediation is crucial in firms' digital transformation, which involves leveraging digital technologies to create new business models and enhance firm value (Verhoef et al., 2021). The digital transformation thus serves as a boundary condition through which organizations can effectively influence crisis management strategies.

In the realm of crisis management, scholars like Nguyen et al. (2022) emphasize the pivotal role of knowledge sharing in bolstering crisis response and organizational resilience. According to COR theory, an organization's most critical assets – such as technological advancements and human capital – are fundamental to its performance, value creation, and sustained competitive edge, especially in the digital age (Lathabhavan & Moovendhan, 2023). Connecting these insights, it becomes evident that unforeseen challenges and resource constraints underscore the necessity for leaders to prioritize skill development, foster a culture of knowledge sharing, and embrace digital transformation. These strategies not only facilitate effective crisis navigation but also ensure heightened organizational performance and adaptability in volatile environments.

Knowledge sharing has been recognized by scholars as pivotal in organizational decision-making and crisis resilience, enabling the rapid and efficient exchange of valuable information (Lee et al., 2021). This proactive behavior is especially crucial in sectors like hospitality, where errors can impact service delivery significantly, making effective knowledge management through sharing essential for minimizing failures (Huo et al., 2022). In knowledge-intensive environments, such practices are instrumental during crises, enhancing problem-solving and innovation capabilities (Baradziej & Gkikas, 2021). The significance of knowledge sharing becomes even more pronounced in times of crisis as it accelerates and optimizes problem-solving, ultimately augmenting the firm's innovation capabilities (Lee et al., 2020). Organizations are therefore encouraged to develop strategies that foster and facilitate knowledge sharing, particularly in crisis scenarios, to navigate challenges effectively.

Furthermore, firms are increasingly leveraging digital transformation efforts to bolster their crisis response and preparedness (Aladawi & Ahmad, 2023; Leo et al., 2023). During crises, businesses face

numerous challenges such as implementing social distancing measures, accommodating remote work preferences of employees, and adapting to reduced business travel, which can impact customer interactions and operational continuity (Ratten, 2020). To address these issues effectively, organizations are striving to predict trends and make informed decisions with greater accuracy and efficiency while minimizing risks (Yadegaridehkordi et al., 2020). Recent research by Samala et al. (2020) underscores the need for further exploration into the scope of digital transformation within the hotel industry. Given these insights, our study aims to achieve several objectives: first, to examine the correlation between responsible and resilient leadership alongside crisis management, with knowledge sharing as a mediator; and second, to assess how digital transformation moderates the relationship between knowledge sharing and crisis management.

With this in mind, our research significantly contributes to the scholarly literature on responsible and resilient leadership by examining various facets. Firstly, we explore the interplay between responsible and resilient leadership in crisis management, enhancing our understanding of how leadership influences crisis outcomes. This expands our insights into crisis management and sheds light on the outcomes of accountable and resilient leadership. Secondly, building on the work of Javed et al. (2021), our study delves deeper into the relationship between leadership styles and outcomes, emphasizing the crucial role of knowledge sharing, particularly within hospitality organizations. This highlights how effective leadership can shape crisis responses through enhanced knowledge dissemination. Thirdly, our study investigates the intersection of crisis management, knowledge sharing, and digital transformation. By exploring how digital transformation moderates these dynamics, we extend our understanding of leadership's impact on crisis management. This underscores the evolving role of technology in fostering resilient organizational responses to crises. Thus, our research expands the understanding of leadership's role in crisis management by mediating through knowledge sharing and moderating through digital transformation, thereby enriching the scholarly discourse on responsible and resilient leadership (refer to Figure 1).

Literature review and hypotheses development

Responsible leadership

Responsible leadership, as articulated by Voegtlin (2011), emphasizes a leader's proactive engagement with all organizational stakeholders. This approach prioritizes constructive dialogues, effective stakeholder management, collaborative problem-solving, and shared responsibilities to foster participative decision-making processes (Voegtlin, 2016). Waldman et al. (2020) further define responsible leadership at the executive level as the capability to address and serve the interests, expectations, and needs of stakeholders competently. In this context, responsible leadership, as defined by Maak and Pless (2006), emerges as an interactive process involving both internal and external stakeholders united by a shared vision, ethics, and values. This conception underscores the importance of ethical values, as highlighted

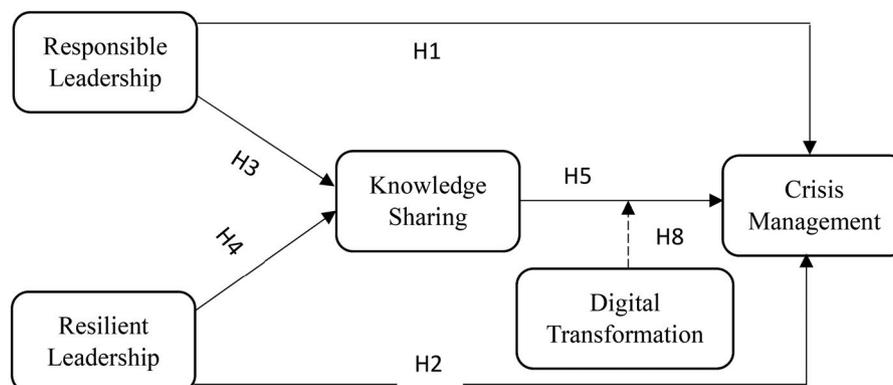


Figure 1. Research model.

by Voegtlin et al. (2012), in guiding organizations through crises and fostering a shared vision among diverse stakeholders (Eriksen & Cooper, 2018).

Voegtlin et al. (2012) argue that responsible leadership differs significantly from other styles, such as ethical leadership. Unlike ethical leadership, responsible leadership not only prioritizes stakeholder engagement but also tackles challenges related to democracy, conflict resolution, globalization, and the dynamic interaction between stakeholders and leaders. This broader scope underscores its emphasis on ethical behavior (Mousa, 2018). However, both styles converge on crucial aspects such as caring for employees, navigating ethical challenges, and valuing diverse perspectives (Voegtlin, 2011). Responsible leadership encompasses leaders' social and environmental responsibilities while minimizing ethical conflicts and prioritizing employee well-being within the organization (Voegtlin, 2016). It distinguishes itself from conventional leadership styles by drawing upon deliberative democracy and discourse ethics theory, which transcend the traditional dyadic leader-subordinate relationship. This approach fosters enduring collaboration among the organizational board and its broader stakeholder community, thereby promoting sustainable practices and ethical decision-making within the organization (Voegtlin et al., 2012; Mousa, 2018).

Responsible leadership has gained significant attention due to its focus on responsible behavior and relational perspectives. This leadership style offers an alternative framework, demonstrating its effectiveness in crisis management (Pounder, 2021). Crisis management, which primarily involves addressing immediate threats, also presents opportunities for future growth (Boin et al., 2017). Leading effectively during crises demands an open mindset and the ability to guide others through challenging situations (Pounder, 2021), particularly in the hospitality industry. Responsible leadership extends beyond managing public perception, legal obligations, and risks; it underscores a commitment to stakeholders and constituents as a fundamental principle.

In line with the COR theory, individuals are motivated to preserve resources and focus their efforts on acquiring additional resources whenever possible (Hobfoll et al., 2018). Responsible leadership, as aligned with this perspective, emphasizes the safeguarding, strategic investment, and thoughtful consideration of stakeholders' interests (Maak et al., 2016). These attributes become particularly critical in times of crisis, playing a pivotal role in effective crisis management. They ensure that the organization possesses essential resources and support structures necessary to navigate and rebound from adversities. Building on this discussion, the subsequent hypothesis is formulated:

H1: Responsible leadership is positively related to crisis management.

Resilient leadership

Resilient leadership is crucial for organizations not only to achieve current objectives effectively but also to navigate and adapt to rapid and unpredictable market changes (Dartey-Baah, 2015). According to Giustiniano et al. (2020), it involves a dynamic blend of defined flexibility, clear direction, and preparedness to navigate challenging moments. In today's global economy, Fleming and Millar (2019) argue that resilient leadership is essential as it mitigates the impact of critical times on organizations and employees. Skilled leaders are adept at instilling resilience in their teams, transforming stress and crises into renewed energy (Lombardi et al., 2021). Renjen (2020b) emphasizes that resilient leaders demonstrate attributes such as thriving, recovering, and responding effectively to challenges. Resilient leadership distinguishes itself from related concepts such as crisis leadership and organizational resilience. Crisis leadership involves the vital tasks of motivating, influencing, and instructing employees during emergencies to navigate shocks and achieve organizational objectives (Zheng et al., 2021). It emphasizes leaders' abilities to foster thriving, cohesion, governance, trust, and accountability. In contrast, resilient leadership goes beyond crisis response. It encompasses navigating adversity, including failures, stress, trauma, crises, and setbacks, with a focus on fostering growth among organizations, teams, employees, and leaders alike. Thus, while crisis leadership centers on immediate response and organizational resilience on overall robustness, resilient leadership integrates these elements to proactively strengthen organizations through adversity.

Resilient Leadership, as highlighted by Fang et al. (2020), underscores the constructive personality traits of leaders amidst challenges or crises, essential for facilitating business recovery and effective

management. From a process perspective articulated by Ishak and Williams (2018), organizational resilience emerges as a dynamic adaptive process. This process involves managerial activities such as resource deployment, emotional labor, improvisation, building communication networks, reintegration, and identity management. In this framework, resilient leadership can be viewed as an active process where leaders inspire, influence, and instruct the work behaviors of their employees. This proactive stance aims to assist the organization in navigating challenges, fostering growth, and enabling recovery in the face of adversity. Thus, resilient leadership not only responds to crises but also proactively shapes organizational resilience through strategic leadership practices and adaptive management approaches.

Hospitality and tourism businesses face significant susceptibility to various crises and disasters. Employees in these sectors, deemed high-risk, regularly encounter workplace hazards such as crime, violence, pandemics, mistreatment from customers, and occupational illnesses (Zhang et al., 2020). Resilient leadership plays a crucial role in fostering robustness, tenacity, and adaptability among both frontline staff and managers (Dai et al., 2019; Saad & Elshaer, 2020). In this context, resilient leadership is characterized by an adaptive and growth-oriented style, focusing on guiding teams to navigate crises effectively, foster business growth, and adapt to diverse adversities (Lombardi et al., 2021). Resilient leaders are distinguished by their ability to swiftly recover from setbacks while maintaining a steadfast focus on their goals, particularly in the face of adversity (Allison-Napolitano, 2014). They emphasize adaptability, emotional intelligence, continuous learning, and relationship cultivation, all of which empower employees to thrive in demanding circumstances.

According to COR theory, crises can deplete resources, leading individuals to experience heightened stress and a diminished sense of control (Hobfoll et al., 2018). This resource scarcity, as highlighted by Ayoko et al. (2021), poses a significant challenge for leaders and managers in crisis management, potentially exacerbating symptoms of depression. However, resilient leaders counteract these challenges by actively seeking new resources and adopting innovative approaches to problem-solving. By securing fresh resources during crises, these leaders not only adapt to changing conditions but also lay the groundwork for organizational recovery and resilience. This proactive strategy fosters a positive cycle of investment in organizational resources, reinforcing the foundation for long-term resilience and adaptive capacity. Expanding on the ongoing discussion, the subsequent hypothesis is developed:

H2: Resilient leadership is positively related to crisis management.

Knowledge sharing as a mediation

Lee et al. (2021) define knowledge sharing as the process of transferring or disseminating knowledge within a firm, encompassing diverse aspects such as job-related documents, personal experiences, procedures, rules, and know-how (Lu et al., 2006). To better understand and enhance conditions conducive to successful knowledge sharing, researchers have explored various influencing factors from multidisciplinary perspectives, focusing on leaders, teams, and organizational levels (Wang & Noe, 2010). Key organizational factors identified include management support (Al Saifi et al., 2016), organizational rewards (Rohim & Budhiasa, 2019), leadership effectiveness (Huo et al., 2022), a supportive organizational culture that fosters social interactions between management and employees (Zhang, 2018), and high-quality knowledge management systems (Nezafati et al., 2023). These catalysts encourage employees to actively participate in knowledge collection, contribution, and exchange.

Several studies underscore the critical role of effective communication, particularly when leaders communicate openly (Le & Lei, 2018). This openness is crucial as it significantly impacts organizational knowledge sharing among personnel (Lee et al., 2021). According to Reinholt et al. (2011), employees in influential positions within organizational networks are adept at gathering and disseminating work-related knowledge among their peers. Furthermore, Hau et al. (2013) demonstrate that an employee's social capital, comprising tangible and potential resources from network relationships, strongly influences their willingness to share knowledge.

This approach facilitates a culture of open knowledge exchange within the organization, fostering an environment where leaders and employees freely share creative ideas and insights to tackle challenges. Leadership behaviors, as highlighted by Men and Bowen (2016), play a crucial role in shaping internal

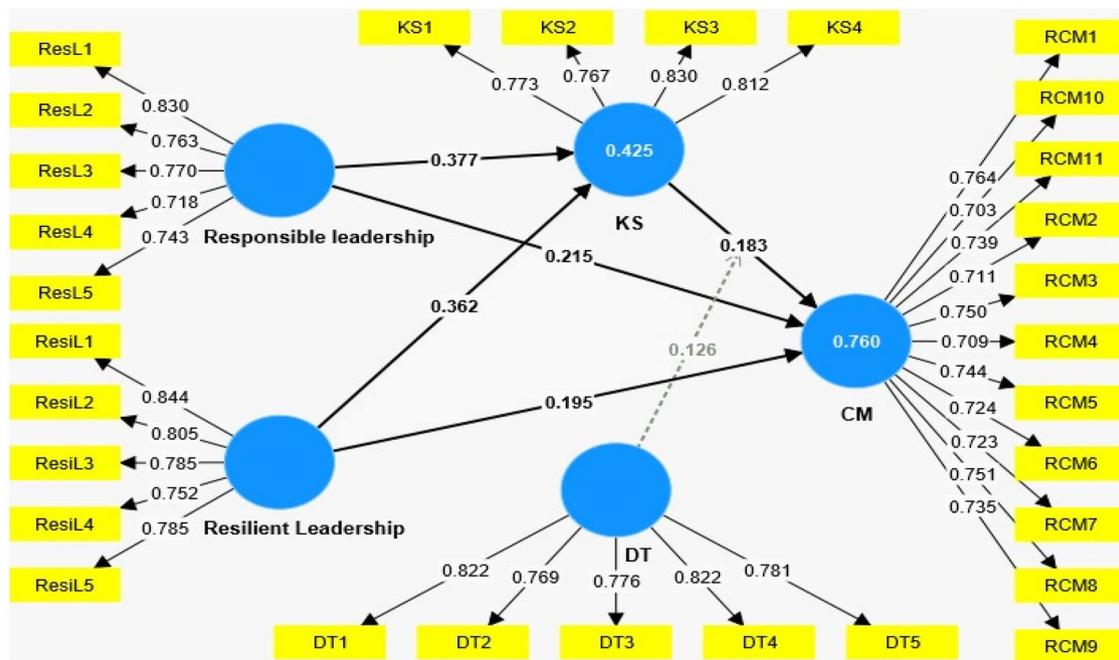


Figure 2. Measurement model. Source: Smart PLS output.

knowledge sharing practices, which in turn promote positive employee outcomes such as active information behaviors (Kang & Sung, 2019). Effective crisis management within an organization depends heavily on leadership behaviors that encourage active participation in knowledge-sharing activities among members (Adamu et al., 2016), particularly enhancing positive employee behaviors during crisis situations (Kim, 2018).

According to Hobfoll (1989), COR theory posits that individuals strive to acquire, maintain, and protect their resources, which can include personal traits, objects, conditions, and energies essential for achieving goals (Chen et al., 2015). In times of crisis, knowledge sharing becomes crucial as it serves as a valuable resource (Lee et al., 2021), facilitating the exchange of information, skills, and experiences within organizations, thereby conserving resources. COR theory suggests that both responsible and resilient leadership styles are conducive to fostering environments where knowledge sharing thrives. Responsible leaders prioritize transparency and ethical communication, ensuring that valuable knowledge is disseminated effectively. Resilient leaders, on the other hand, encourage collaboration and the open exchange of ideas, further enhancing the organization's ability to leverage and preserve its resources. Based on the preceding discussion, we propose the following hypotheses:

H3: Responsible leadership is positively related to knowledge sharing.

H4: Resilient leadership is positively related to knowledge sharing.

In today's fiercely competitive business environment, where organizations must thrive in a knowledge-centric world, effective knowledge sharing becomes indispensable. According to Baradziej and Gkikas (2021), it is a critical mechanism for implementing work practices that positively influence and enhance firms' performance. Moreover, fostering a culture of knowledge sharing, as highlighted by Chen et al. (2010), not only enhances an organization's capacity for innovation but also equips it with the resilience needed to navigate crises effectively. Clear direction and guidance for individuals are particularly vital in navigating challenging situations during times of crisis.

Knowledge sharing among employees and across teams is crucial for organizations to effectively leverage their knowledge-based resources (Ahmad & Karim, 2019). It minimizes redundant learning efforts (Lu et al., 2006) and enhances organizational innovation capacity, particularly when leaders actively participate in sharing their knowledge (Le & Lei, 2019). This active participation strengthens an organization's ability to manage crises effectively. During crises, the importance of knowledge sharing becomes even

more pronounced. Through the exchange of ideas, suggestions, and information, individuals can identify and generate actionable problem-solving practices and knowledge (Geiger & Schreyögg, 2012). This collaborative approach provides clear orientation and guidance to address the complexities of the work environment during a crisis.

Effective internal communication plays a crucial role in navigating organizational crises and managing the workforce (Johansen et al., 2012). During times of crisis, strategic internal knowledge sharing, combined with effective leadership styles, becomes essential for fostering active knowledge exchange among employees (Buhagiar & Anand, 2023). According to the resource caravan pathway principle of COR theory (Hobfoll et al., 2018), both work and personal resources interact to influence various outcomes (Wang et al., 2021). Work resources, such as support from supervisors, initiate the motivational process by helping employees fulfill their basic needs. Meanwhile, personal resources, reflecting individuals' perceptions of their ability to control and influence their environment (Xu et al., 2020), play a significant role in shaping behaviors and responses within the workplace. During a crisis, the risk of resource depletion, such as time, money, and personnel, is heightened (Wenzel et al., 2020). Effective knowledge sharing plays a crucial role in mitigating this risk by ensuring that all team members are well-informed, enabling quick and informed decision-making, and reducing the likelihood of costly mistakes (Edmondson, 2012). According to COR theory, adept crisis management can lead to resource gains, such as bolstered team cohesion, streamlined processes, and enriched knowledge. Leaders who demonstrate responsibility and resilience can harness these gains to significantly strengthen their organizational framework. Thus, we propose the following hypothesis:

H5: Knowledge sharing is positively related to crisis management.

Organizational crises are characterized by profound uncertainty and ambiguity, highlighting the imperative for organizations to communicate accurately, transparently, and truthfully with internal stakeholders, including employees (Johansen et al., 2012). During such times, knowledge sharing becomes essential for swiftly distributing vital information to relevant stakeholders, guests, and employees. Effective cooperation and communication are particularly critical in crisis scenarios such as natural disasters, public health emergencies, or unforeseen incidents. Rapid dissemination of information is crucial during emergencies to ensure that everyone is informed of the situation and prepared to respond appropriately (Andreassen et al., 2020).

Leadership is widely acknowledged as pivotal in effective crisis management (Adamu et al., 2016). During crises, organizational leaders play a crucial role in ensuring successful resilience and recovery through effective communication (Teo et al., 2017). Their behaviors significantly influence how employees engage in knowledge-sharing, which is essential for managing organizational crises (Adamu et al., 2016). According to Lee et al. (2019), knowledge sharing not only facilitates group learning but also acts as a mediator between leadership styles and safety behaviors. It enables leaders and employees to exchange creative ideas and insights, crucial for addressing crisis-related challenges. Moreover, Kim (2018) highlights that an organization's initiatives promoting knowledge sharing in a participative, accountable, and open manner enhance the likelihood of employees willingly contributing their expertise during crises.

According to the resource caravan pathway principle of the COR theory (Hobfoll et al., 2018), knowledge sharing acts as a crucial psychological mechanism that strengthens the link between responsible and resilient leadership styles in crisis management. Employees, driven by the goal of safeguarding resources and preventing future losses, actively invest in and share knowledge, which not only benefits their leaders but also fortifies the organization (Wang et al., 2021). Leadership styles that foster a culture of knowledge sharing are pivotal for effective crisis management (Lee et al., 2021), promoting continuous learning, open communication, collaboration, and trust. By cultivating these attributes, responsible and resilient leadership styles ensure organizations are well-equipped to confront and manage crises swiftly and effectively. Knowledge sharing thus becomes a vital resource, enhancing the organization's adaptive capacity to respond to unexpected challenges. Expanding on the ongoing discussion, the subsequent hypotheses are developed:

H6: Knowledge sharing mediates between responsible leadership and crisis management.

H7: Knowledge sharing mediates between resilient leadership and crisis management.

Digital transformation as moderation

Recognizing the pivotal role that companies play in the global economy (Kano & Hoon Oh, 2020; Sun et al., 2021), it becomes crucial for them to establish comprehensive strategies for managing business operations. This involves identifying and mitigating risks that threaten essential processes and associated services, aiming to minimize their impact and ensure the feasibility of recovering from disruptions without significant enterprise-wide repercussions (Gibb & Buchanan, 2006). In this context, digital transformation assumes a pivotal role, encompassing the adoption of various technologies such as artificial intelligence, big data analytics, e-platforms, cloud computing, social media, and the internet (Papadopoulos et al., 2020).

Digital transformations, such as artificial intelligence, robotics, and automation, have spurred innovations that are profoundly reshaping service consumption and delivery (Pemer, 2021). Organizations embark on these initiatives with the primary goal of enhancing customer service capabilities and supporting employee performance. Consequently, the degree to which a firm embraces digital transformation reflects its utilization of digital technologies and the development of a robust multichannel digital business model aimed at creating and capturing additional value (Verhoef et al., 2021). One significant outcome of enhanced digital capabilities is the creation of digital service workplaces, enabling service employees to seamlessly connect with their teams and customers. This capability becomes especially critical during crises, as digital tools empower customer-facing service staff with resources to manage challenging and stressful situations effectively (Leo et al., 2023). This shift is pivotal because traditional service interactions, traditionally reliant on face-to-face communication, increasingly pivot towards technology-driven digital interactions during such times. Thus, leveraging digital transformation not only enhances operational efficiency but also strengthens organizational resilience in navigating crises through advanced digital service strategies.

In recent years, the integration of digital technologies has revolutionized how organizations conduct business, connect with global partners and stakeholders, understand market demands, and deliver value to customers (Del Giudice et al., 2019). During crises, deploying digital technologies becomes imperative to ensure business continuity, enhance working conditions, and proactively address challenges (Yadegaridehkordi et al., 2020). By incorporating digital technologies into their operations, organizations can efficiently gather information, swiftly identify external threats and opportunities, and adapt their strategies accordingly.

Businesses are increasingly leveraging digital technologies to enable rapid decision-making during unforeseen emergencies, owing to both the advantages and challenges associated with their widespread adoption (Zahoor & Lew, 2023). Integrating these technologies not only facilitates coordination but also accelerates the exchange of expertise among partners (Chen et al., 2014). Central to this approach is the concept of knowledge sharing within organizations, which is believed to yield positive outcomes (Christensen, 2007). This involves identifying and utilizing existing information to transfer and apply it effectively, solving tasks more efficiently and cost-effectively than traditional methods allow. Imam and Zaheer (2021) contend that fostering the flow of information within teams enhances problem-solving efficiency and timeliness, contrasting with the potentially higher costs associated with seeking knowledge externally. In today's dynamic business environment, the significance of digital transformation is underscored as it empowers organizations to achieve rapid results and sustain growth amid unpredictable market conditions (Baradziej & Gkikas, 2021).

In line with COR theory, hospitality organizations view investments in digital transformation as crucial resources. These resources play a pivotal role in fostering buffering capabilities specifically aimed at crisis management. By acquiring these supplementary resources, individuals can initiate a positive feedback loop, leading to continuous resource accumulation (Hobfoll et al., 2018). Assessing the availability of these resources provides valuable insights into preparedness for potential crises. Armed with enhanced crisis management skills, hospitality professionals can experience a beneficial overflow of personal and professional resources. This contributes not only to heightened life satisfaction but also fosters a more customer-centric approach (Leo et al., 2023). From the above discussion, we propose the following hypothesis:

H8: Digital transformation moderates knowledge sharing and crisis management nexus.

Figure 1 illustrates the research framework employed in this study.

Methodology

Sample and procedure

In this study, we adopted a quantitative-deductive approach, tailored to address specific research questions and hypotheses. This method allowed us to statistically analyze the relationships between various constructs, thereby deepening our empirical understanding (Sekaran & Bougie, 2016). Employing a cross-sectional time horizon, we utilized a questionnaire as our primary data collection tool within a specified timeframe. The Jordanian hotel industry was chosen due to its susceptibility to crisis impacts, substantiated by prior research (Aigbedo, 2021). Our focus centered on elucidating the leadership philosophies employed within the industry to facilitate knowledge dissemination and crisis management through digital transformation. The study fills a gap in the literature by exploring how knowledge sharing, digital transformation initiatives, and resilient leadership styles intersect to influence crisis management strategies. Specifically targeting three-to-five-star hotels in Jordan, our research engaged both hotel owners and top management in providing invaluable insights.

The sampling frame comprised 172 hotels selected from the Jordan Hotel Association list, meeting specific criteria. This included 80 three-star hotels, 50 four-star hotels, and 42 five-star hotels. The deliberate choice of three-star and above hotels was based on their robust organizational structures and the likelihood of having established crisis management strategies (AlBattat & Som, 2015). Our study focused exclusively on the hotel industry, employing judgmental sampling, also known as purposive sampling (Meirun et al., 2024). This non-probability sampling method involved selecting participants based on the researcher's expertise, specifically targeting individuals with significant experience and expertise in hotel operations, such as owners and top management. Their deep industry knowledge provided invaluable insights into the complex challenges and opportunities within the sector. By focusing on individuals deeply embedded in their roles, we ensured that the data collected was highly relevant and directly aligned with our research objectives. Owners and top management offered profound insights that may not have been accessible through random sampling methods alone. To facilitate judgmental sampling for our study, we selected hotels ranging from three to five stars.

The study's sample size can be determined by using a rule of thumb or statistics (Aaker et al., 1998; Teddlie & Yu, 2007). The study's sample size was determined using a priori G*Power analysis, aiming for a statistical power of 0.95 and an effect size of 0.15, with five constructs and a significance level of 0.05. The analysis indicated that a minimum sample size of 138 would suffice to establish relationships between exogenous and endogenous variables. Anticipating a low response rate, 172 questionnaires were distributed to ensure robust data collection. Consent was obtained from participating hotels, after which questionnaires, accompanied by a cover letter detailing the study's objectives and ensuring

Table 1. Demographics ($n=154$).

Description	Number	Frequency
Age		
25–35	24	15.58
36–45	75	48.7
46–55	42	27.3
Above 55	13	8.44
Gender		
Male	116	75.3
Female	38	24.7
Education level		
Graduate	99	64.3
Postgraduate	45	29.2
Diploma	10	6.49
Industry experience		
1–5	3	2
6–10	15	9.7
11–15	33	21.4
Above 15	103	66.9
Hotel rating		
Three-star	80	51.9
Four-star	50	32.5
Five-star	42	27.3

respondent confidentiality and anonymity, were distributed using a drop-and-collect method. This approach resulted in a notably higher response rate (Ibeh et al., 2004). The participants included hotel owners and senior management from hotels related three to five stars. In total, 172 questionnaires were distributed, resulting in 159 responses, equating to a robust response rate of 92.4%. However, five of these responses were incomplete, leaving 154 surveys eligible for analysis. All study participants provided verbal informed consent and were assured of strict anonymity and privacy protections. Ethical standards were closely monitored and endorsed by both the Ministry of Tourism and Antiquities and the Jordan Hotel Association throughout the data collection process. [Table 1](#) presents a detailed overview of the participants' demographic and personal characteristics.

Measures and instruments

We adapted scales aligned with our study constructs to investigate the relationships between exogenous and endogenous factors. A panel of academic experts specializing in leadership styles, crisis management, knowledge sharing, and digital transformation rigorously reviewed the questionnaire. Incorporating their feedback, we refined the scale and translated the questionnaire from English to Arabic to broaden its reach. To assess participant responses, we utilized a five-point Likert-type scale for formulating questionnaire items. The final version of the questionnaire, comprising six sections, was then distributed to the study sample. The questionnaire was divided into two main sections. The first section included demographic information and firm-specific details for each participant. The second section focused on crisis management, incorporating eleven items adapted from Herbane (2013), achieving a high internal consistency with a Cronbach's alpha value of 0.913. The sample items of the measure were "I am concerned about risks that cannot be predicted" and "Running the business is itself a high-risk activity".

The questions related to responsible leadership were measured by adapting five items from Voegtlin (2011), with a Cronbach's alpha value of 0.823. The sample items of the measures were "My leader demonstrates awareness of the relevant stakeholder claims during crisis" and "My leader involves the affected stakeholders in the decision-making process during crisis". The questions related to and resilient leadership were measured by adapting five items from Singh et al. (2023), with a Cronbach's alpha value of 0.854. The sample items of the measures were "Our leaders encourage, freedom within the firm during crisis situations" and "Our leaders always prefer a proactive approach during crisis; that they anticipate and react quickly to change". The knowledge-sharing construct was assessed by modifying four items from Baradziej and Gkikas (2021), with a Cronbach's alpha value of 0.807. The sample items of the measures were "During crisis, my leaders and I, shared a significant amount of knowledge and skills" and "During crisis, my leaders and I, shared knowledge and skills that contribute to our work performance". Finally, the digital transformation construct was determined by modifying five items from Leo et al. (2023), with a Cronbach's alpha value of 0.854. The sample items of the measures were "Our organization has capitalized on opportunities with digital technologies during crisis" and "Our organization is driving new business processes built on digital technologies during crisis".

Data analysis and results

We chose PLS-SEM for its effectiveness in estimating and analyzing both measurement and structural models in empirical research. Given its capability to handle complex models like mediation and moderation, smart PLS is particularly recommended (Henseler et al., 2015). Researchers using smart PLS are advised to ensure the accuracy of the measurement model and utilize the structural model to examine correlations and test theoretical constructs.

Before proceeding with data analysis and hypothesis testing, we followed Kock (2015) recommendation to assess for full collinearity, a crucial step in mitigating common method bias (CMB) when using variables from the same dataset. To address CMB, we conducted two statistical tests: the variance inflation factor (VIF) test (Kock, 2017), and Harman's single factor test. Firstly, the VIF test revealed low multicollinearity among the latent constructs, with values ranging from 1.838 to 2.155, all well below the

threshold of 3.3 (Kock, 2017). Secondly, Harman's single-factor test was employed to determine if a single factor could explain a significant portion of the variance. The results showed that only 31.495% of the variance was accounted for by a single factor, which is below the conventional cutoff of 50%. This finding suggests that the data were not significantly affected by common method bias (CMB), indicating minimal contamination from CMB in our dataset. These results support the robustness of our findings in subsequent analyses (Ahmed et al., 2023).

The measurement model

The study utilized Smart PLS for its ability to generate precise results and accurately forecast correlations between variables (refer to Figure 2). In testing both convergent and discriminant validity through PLS-SEM, academics recommend assessing outer loadings of indicators, composite reliability, and average variance extracted (AVE). By evaluating these aspects across all independent and dependent variables, the study confirmed the model's validity. AVE values, reflecting measures, were calculated to ensure they exceeded the critical threshold of 0.50. Additionally, factor loadings met or surpassed the criterion of 0.70 (Hair et al., 2014), and composite reliability scores were above 0.70, indicating statistically acceptable internal consistency. Detailed results for construct reliability and convergent validity are summarized in Table 2.

Table 2. Convergent validity and reliability of the constructs.

Construct	Items	Loadings	CR	AVE	Skewness	Kurtosis	VIF
Responsible leadership			0.876	0.586			
	RespL1	0.830			-1.067	1.164	1.926
	RespL2	0.763			-0.748	0.365	1.696
	RespL3	0.770			-0.949	0.951	1.727
	RespL4	0.718			-0.915	0.721	1.569
	RespL5	0.743	-0.674	0.412	1.006		
Resilient leadership			0.895	0.632			
	Resil1	0.844			-1.184	1.982	2.335
	Resil2	0.805			-0.937	1.338	2.111
	Resil3	0.785			-0.957	1.071	1.803
	Resil4	0.752			-0.816	0.477	1.886
	Resil5	0.785	-1.205	2.289	1.897		
Knowledge sharing			0.874	0.634			
	KS1	0.7773			-1.083	0.895	1.520
	KS2	0.767			-0.776	0.514	1.624
	KS3	0.830			-0.776	0.503	1.845
	KS4	0.812	-0.919	1.192	1.737		
Digital transformation			0.895	0.631			
	DT2	0.822			-1.223	1.899	2.191
	DT2	0.769			-1.348	2.398	1.662
	DT3	0.776			-1.071	1.257	1.887
	DT4	0.822			-1.300	2.326	2.141
	DT5	0.781	-0.995	1.218	1.981		
Crisis management			0.927	0.536			
	CM1	0.764			-1.399	2.823	2.194
	CM2	0.711			-0.992	1.338	1.961
	CM3	0.750			-1.105	1.856	2.057
	CM4	0.709			-1.008	1.074	1.930
	CM5	0.744			-1.199	1.583	2.768
	CM6	0.724			-0.681	0.525	2.036
	CM7	0.723			-0.985	1.766	1.987
	CM8	0.751			-0.828	1.186	2.188
	CM9	0.735			-1.207	2.632	2.217
	CM10	0.703			-0.928	1.028	1.842
	CM11	0.739	-1.184	1.933	2.666		

Note: CR=composite reliability; AVE=average variance extracted; VIF=variance inflation factor.

Table 3. Discriminant validity (HTMT).

Constructs	CM	DT	KS	Resil	RespL
Crisis management					
Digital transformation	0.836				
Knowledge sharing	0.775	0.633			
Resilient leadership	0.791	0.663	0.677		
Responsible leadership	0.831	0.782	0.701	0.657	

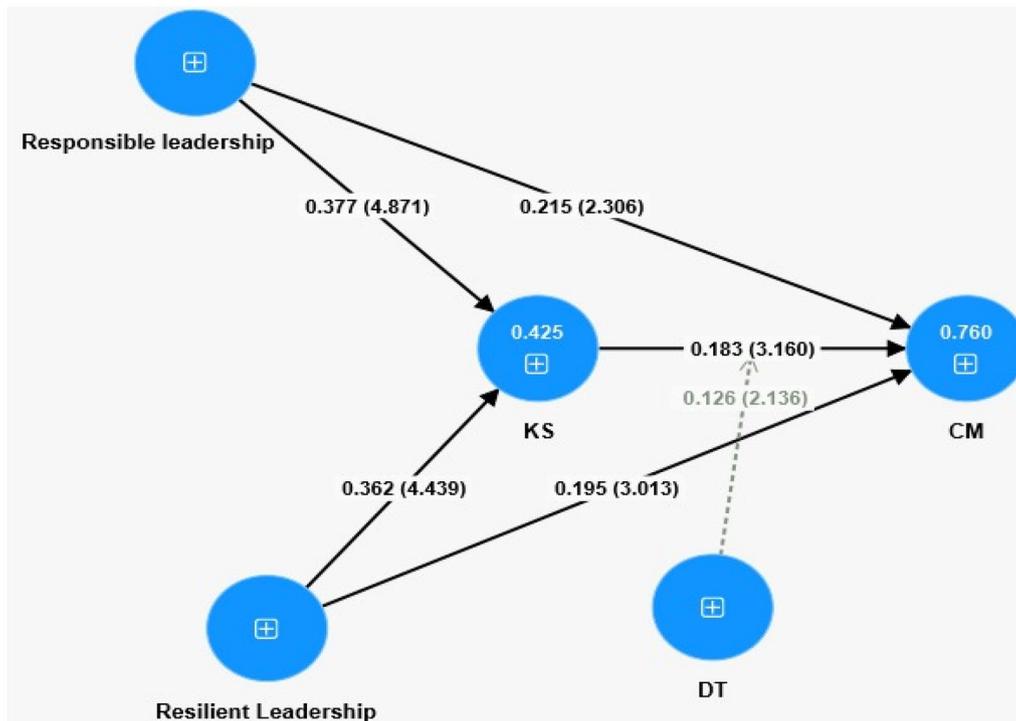


Figure 3. Structural model.

Table 4. Direct paths.

Hypotheses	Relationships	Beta	SD	t-value	p-values	CI LL/UL	Decision
H1	Respl -> CM	0.215	0.093	2.306	0.021	0.036/0.398	Supported
H2	Resil -> CM	0.195	0.065	3.013	0.003	0.080/0.334	Supported
H3	Respl -> KS	0.377	0.077	4.871	0.000	0.218/0.519	Supported
H4	Resil -> KS	0.362	0.082	4.439	0.000	0.188/0.508	Supported
H5	KS -> CM	0.183	0.058	3.160	0.002	0.068/0.295	Supported

Notes: Respl=responsible leadership; Resil=resilient leadership; CM=crisis management; KS=knowledge sharing; SD=standard deviation; CI=confidence intervals; LL=lower limit; UL=upper limit.

Table 5. Indirect relationships.

Total effect (Respl -> CM)			Direct effect (Respl -> CM)			Indirect effects of Respl on CM					
Beta	t-values	p-values	Beta	t-values	p-values	Hypothesis	Beta	SD	t-values	p-values	CI LL/UL
0.285	3.047	0.002	0.215	2.306	0.021	H6: Respl -> KS -> CM	0.069	0.023	2.949	0.003	[0.030/0.124]
Total effect (Resil -> CM)			Direct effect (Resil -> CM)			Indirect effects of Resil on CM					
Beta	t-values	p-values	Beta	t-values	p-values	Hypothesis	Beta	SD	t-values	p-values	CI LL/UL
0.261	.740	0.000	0.195	3.013	0.003	H7: Resil -> KS -> CM	0.067	0.029	2.320	0.020	[0.019/0.131]

Notes: Respl=responsible leadership; CM=crisis management; Resil=resilient leadership; KS=knowledge sharing; SD=standard deviation; CI=confidence intervals; LL=lower limit; UL=upper limit.

The Heterotrait-Monotrait (HTMT) scores used to evaluate discriminant validity among all constructs consistently fell below the recommended threshold of 0.85 (Kline, 2015). This indicates robust support for both convergent and discriminant validity across the model's constructs, as depicted in Table 3.

Structural model

Following confirmation of the measurement model's validity and alignment of statistical tests with recommended values, we proceeded to assess relationships among constructs. We utilized the bootstrapping technique with 5,000 resamples to examine connections between exogenous and endogenous

constructs. Smart-PLS facilitated this hypothesis-testing process. The findings are presented in Figure 3, illustrating beta values and causal connections among factors of crisis management, including responsible and resilient leadership styles, knowledge sharing, and digital transformation. Path coefficient (β) values were calculated, and t -values along with corresponding p -values were used to evaluate these relationships. A t -value exceeding 1.96 (two-tailed) and a p -value less than 0.05 indicate the validity of a hypothesis. Tables 4 and 5 detail the results of testing both direct and indirect study hypotheses. Importantly, all direct and indirect hypotheses were confirmed by our findings.

The study found significant and positive relationships between responsible leadership and crisis management (H1: $\beta = 0.215$, t -value = 2.306, $p < 0.05$), as well as knowledge sharing (H3: $\beta = 0.377$, t -value = 4.871, $p < 0.05$). Similarly, resilient leadership showed significant and positive associations with crisis management (H2: $\beta = 0.195$, t -value = 3.013, $p < 0.05$) and knowledge sharing (H4: $\beta = 0.362$, t -value = 4.439, $p < 0.05$). Additionally, knowledge sharing was found to positively and significantly impact crisis management (H5: $\beta = 0.183$, t -value = 3.160, $p < 0.05$). Therefore, all hypotheses (H1–H5) were supported, highlighting the interconnected roles of responsible and resilient leadership in fostering both crisis management effectiveness and knowledge sharing within organizations.

We conducted an indirect analysis to investigate whether knowledge sharing serves as a mediator in the relationship between responsible leadership, resilient leadership, and crisis management. The results, presented in Table 5, confirm that knowledge sharing indeed mediates the relationship between responsible leadership and crisis management (H6: $\beta = 0.183$, $t = 3.160$, $p < 0.05$) as well as between resilient leadership and crisis management (H7: $\beta = 0.069$, $t = 2.949$, $p < 0.05$). Therefore, both hypotheses (H6 and H7) are supported, suggesting a significant role of knowledge sharing in linking these leadership styles to effective crisis management.

In addition, hypothesis H8 proposed that digital transformation moderates the relationship between knowledge sharing and crisis management. The findings indicate a significant interaction effect between digital transformation and knowledge sharing on crisis management (H8: $\beta = 0.126$, t -value = 2.136, $p < 0.05$), thereby confirming H8 as supported (see Table 6).

Table 6. Moderation path.

Paths	Outcome variable – crisis management		
	Beta	t -value	CI LL/UL
Digital transformation	0.195	2.519	[0.052/0.351]
Interaction (DT*KS)	0.126	2.136	[0.246/0.026]
R^2	0.689		
ΔR^2	0.760		
f^2	0.296		

Notes: DT=digital transformation; KS=knowledge sharing; R^2 = coefficient of determination; ΔR^2 = change in R^2 ; f^2 = effect size; CI=confidence intervals; LL=lower limit; UL=upper limit.

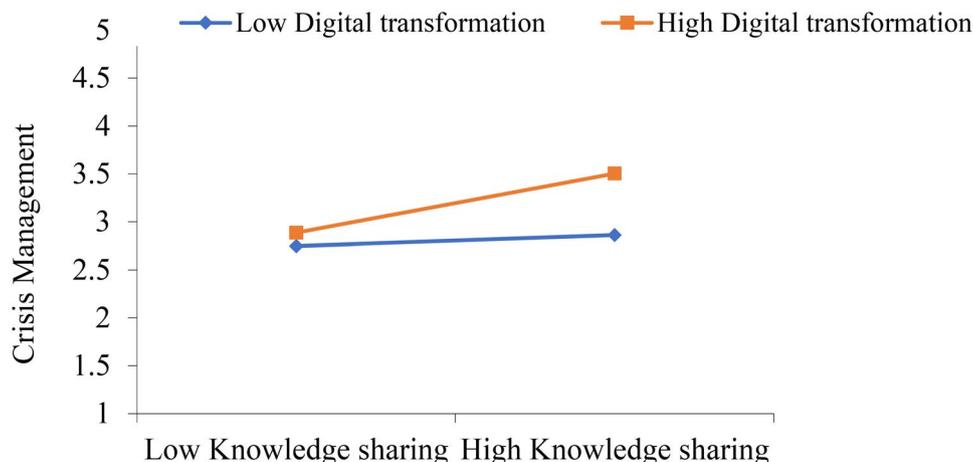


Figure 4. Interaction impact of digital transformation and knowledge management on crisis management.

Table 7. Predictive relevance and coefficient of determination.

Constructs	Predictive relevance (Q^2)	Coefficient of determination (R^2)
Crisis management	0.707	0.760
Knowledge sharing	0.402	0.425

To evaluate the moderation effect effectively, it is essential to obtain values for R^2 , f^2 , and the slope, particularly when the moderation effect is significant and requires slope analysis. The calculation of the effect size is conducted as follows:

$$f^2 = \frac{R^2_{\text{included}} - R^2_{\text{excluded}}}{1 - R^2_{\text{included}}}$$

The effect sizes of 0.02, 0.15, and 0.35, classified as small, moderate, and large respectively (Henseler & Fassott, 2010), reflect the magnitude of findings in Table 6, indicating a moderate moderation effect size for crisis management. Our study further involved a slope analysis to clarify how the moderating influence operates. Figure 4 illustrates a steeper slope for high levels of digital transformation, suggesting that the impact of knowledge sharing on crisis management strengthens with greater digital transformation, contrasting with its weaker effect at lower levels of digital transformation.

Predictive relevance and explanatory power

We utilized two criteria to assess our research model's predictive relevance and explanatory power. Firstly, we employed the R^2 to assess the explanatory power of the model, which gauges the proportion of variance elucidated by exogenous constructs in endogenous constructs. Henseler et al. (2009) propose the subsequent thresholds for interpreting R^2 values: 0.25 for small, 0.50 for moderate, and 0.75 for substantial. The obtained R^2 value was (0.760=substantial) for crisis management (0.425=moderate) and for knowledge sharing (see Table 7). Secondly, the Stone-Geisser (Q^2) analysis was employed to assess the predictive relevance of the model, following the method outlined by Geisser (1974). The results indicate that Q^2 values for knowledge sharing (0.402) and crisis management (0.707) exceeded zero, suggesting satisfactory predictive significance.

Discussion

In this empirical investigation, we examine the impact of responsible and resilient leadership styles on effective crisis management. We explore this relationship by investigating knowledge sharing as a mediating mechanism, with digital transformation as a boundary condition, guided by the conservation of resources theory. This study comprises eight hypotheses, all of which were empirically validated. Our findings confirm a positive association between responsible leadership and crisis management, substantiating H1 and H2, aligning with previous research by Irfan et al. (2023). Navigating a crisis demands exceptional leadership skills due to its inherently complex nature. The sensitive and often hostile environment during a crisis necessitates leaders to make nuanced, far-reaching decisions amidst challenges such as limited or rapidly changing information. While crisis management primarily involves addressing and overcoming threats, it can also reveal future opportunities (Boin et al., 2017). Responsible leadership in crisis management requires an open-minded approach and the ability to lead effectively in challenging and adverse conditions. This type of leadership goes beyond managing risks, public perception, and legal obligations; it underscores the responsibility towards constituents and stakeholders. Freeman and Auster (2012) suggest that responsible leaders carefully evaluate the consequences of their actions on stakeholders. They make reasoned decisions, emphasizing the capacity to act responsibly in unusual circumstances.

The research findings strongly support the positive relationship between resilient leadership and crisis management (H2), aligning with previous research conducted by Renjen (2020a). Our study within the hospitality industry reveals that these leaders facilitated offsite work and maintained productivity during crises such as floods and hurricanes. In these unprecedented times, leaders innovated to create value, adapted to new realities, and implemented creative solutions. The dynamic nature of the hospitality

sector fostered leadership reinvention, where adaptability became a crucial skill for navigating constant change. By balancing caution and realism with optimism, these leaders effectively identified opportunities and navigated potential obstacles, enhancing their ability to manage disruptions. Key resilience skills identified include unlearning and relearning, letting go of outdated methods, adopting new perspectives, and implementing innovative solutions. The study also found that resilient individuals who demonstrated adaptability, leveraged networks, embraced a growth mindset, learned from mistakes, and problem-solved, achieved 1.8 times higher productivity than the norm (Albuquerque Pai et al., 2023). Effective crisis management in unpredictable organizational circumstances necessitates resilient and responsible leadership styles.

This study contributes significantly to our understanding by highlighting the pivotal relationship between different leadership styles and their role in facilitating knowledge exchange, crucial for effective crisis management. Our findings robustly support hypotheses H3–H7 by affirming that knowledge sharing serves as a mediating mechanism, enhancing the link between diverse leadership styles and the efficacy of crisis management efforts. The research underscores the criticality of responsible leadership in shaping organizational culture, particularly through fostering accountability and ethical conduct. Such a culture not only encourages open dialogue but also empowers employees to freely express their ideas, thereby cultivating an environment where creativity thrives (Batool et al., 2024). Furthermore, it emphasizes the paramount importance of open and transparent communication in nurturing a collaborative culture. This approach not only provides a platform for employees to exchange ideas and knowledge but also ensures the unrestricted flow of information throughout the organization. Such communicative competence becomes indispensable for organizational continuity and resilience, particularly during crises (Albuquerque Pai et al., 2023), that enables effective and competent decision-making by individuals (Inan et al., 2018).

Recent research underscores the dual benefits of proactive communication during crises, highlighting its pivotal role in fostering organizational knowledge sharing. The inherent value of knowledge exchange in the workplace has been extensively documented, emphasizing the significance of imparting and receiving information. Conducting training sessions and delineating business goals are pivotal steps in cultivating an environment conducive to robust information flow (Nakano et al., 2013). Open internal communication serves as a barometer of a company's commitment to keeping employees informed and listening to their perspectives. Responsible and resilient leaders play a crucial role by providing guidance, direction, and mentorship, thereby enhancing their team's crisis management capabilities. Research supports that leaders who actively share knowledge with their teams foster an environment where team members gain confidence and dedication in decision-making processes. These findings align with studies by Mohammed and Kamalanabhan (2020) and Sharif et al. (2022) which highlight the pivotal role of knowledge dissemination in bolstering staff commitment and dedication. The results show that employees' sense of ownership and involvement within the hospitality sector is positively interrelated with their active involvement in decision-making processes. Furthermore, employees' sense of ownership and engagement in the hospitality sector is positively correlated with their active involvement in decision-making processes. When leaders engage in transparent and open knowledge sharing, they create an environment conducive to continuous learning and improvement, characterized by mutual respect and trust. Ultimately, such practices help cultivate strong organizational cultures capable of navigating and sustaining through the most challenging of circumstances.

Our research underscores the critical importance of open and honest knowledge sharing as a pivotal strategy for businesses to effectively navigate and innovate during crisis situations, fostering cooperative knowledge generation among internal stakeholders (Lee et al., 2021). Specifically, our findings indicate that the relationship between information sharing and crisis management in the hotel industry is significantly influenced by firms' commitment to digital transformation, particularly in handling unforeseen crises. This substantiates H8, as evidenced by experts' perspectives on crisis management, where minimizing human interaction emerges as a viable approach to addressing safety concerns among both customers and employees – an essential priority. Consequently, businesses must remain vigilant in adapting to evolving circumstances, recognizing that technology will play a crucial role in shaping the future of the hospitality industry. Over the years, experts have consistently advocated for integrating technology to address operational and strategic challenges within hospitality (Shukla et al., 2023). Recommendations

have been widespread, emphasizing the implementation of advanced technologies such as service robots and artificial intelligence (Wirtz et al., 2018). By embracing technology, hospitality establishments enhance operational efficiency, ensure business continuity, facilitate remote work, prioritize employee safety, maintain customer satisfaction, and collaboratively shape superior customer experiences while proactively anticipating challenges.

Theoretical Implications

This research significantly contributes to the existing body of knowledge by deepening our understanding and addressing gaps in the literature, particularly in the field of crisis management. It stands as a pioneering study that sheds light on leadership roles during crises (Zaman et al., 2019; Bose et al., 2021). This novel investigation is driven by the researcher's imperative to delve further into the role of leadership, especially in crisis contexts. A distinctive feature of this study is its introduction and examination of responsible and resilient leadership roles, with a specific focus on crisis management and the mediation of knowledge sharing. Notably, it marks the first attempt to investigate the interplay between responsible and resilient leadership, crisis management practices, and the facilitation of knowledge sharing (Bose et al., 2021; Shukla et al., 2023). By exploring previously underexplored mechanisms, the study uniquely fulfills the researcher's commitment to advancing our understanding in this crucial area.

This research contributes to existing scholarly work by exploring the role of firm digital transformation as a moderator in the relationship between knowledge sharing and crisis management. This approach responds to recent calls in the literature to investigate digital technologies as moderators, offering a fresh perspective and advancing theory development (Papanagnou et al., 2022; Fähndrich, 2023). Prior studies conducted during crises have often emphasized corporate leadership narratives, authentic leadership behavior, transformational leadership (Haddon et al., 2015; Grošelj et al., 2021; Im et al., 2021), and control leadership behaviour (Stoker et al., 2019). In contrast, our study introduces novel data that highlight the effectiveness of responsible and resilient leadership styles in crisis management.

Finally, our study advances COR theory within the leadership-crisis management literature by emphasizing the pivotal significance of responsible and resilient leadership styles, crisis management practices, knowledge-sharing initiatives, and digital transformation efforts within Jordan's hospitality industry. Through this theoretical framework, we explore an under-researched area and contribute substantially to existing knowledge, particularly in elucidating the tangible expressions of accountable and adaptable leadership styles. These styles are crucial for leaders when navigating crises, demonstrating a proactive commitment to knowledge sharing, driving digital transformations, and prioritizing critical aspects such as customer relations, employee safety, and remote work capabilities. Our research underscores the multifaceted role of responsible and resilient leadership in effectively managing crises amidst the evolving landscape of Jordan's hospitality sector.

Practical Implications

The present research holds significant implications for organizational and managerial strategies, particularly in crisis management. It provides a valuable guide for current organizational managers, advocating the adoption of responsible and resilient leadership practices that are crucial for effectively navigating crises. In times of crisis, organizations are advised to carefully select strategies that align seamlessly with the current environment and industry dynamics. Management should prioritize implementing training programs aimed at fostering responsible and resilient leadership skills, essential for effective crisis management. The global rise of crises places considerable pressure on social, economic, and governance structures, highlighting the importance of proactive measures in managing these challenges (Crayne & Medeiros, 2021). Managers must assess their leadership styles to enhance team performance (Castellano et al., 2021). In hospitality settings, managers must prioritize the safety and well-being of stakeholders during crises while also safeguarding the future of their establishments. This involves making financially responsible decisions that ensure long-term viability, such as investing in sustainable practices to achieve cost savings and appeal to environmentally conscious travelers. Examples of such sustainable practices

include purchasing locally produced goods, implementing recycling and reuse policies, controlling pollution, conserving water and energy, recycling grease, oil, and fat, avoiding hazardous materials, sorting and collecting waste, and donating leftovers to charity, among others (Elkhwesky et al., 2022a, 2022b; Jang et al., 2017). These initiatives not only address immediate concerns but also contribute to a resilient and responsible approach to hospitality management in crisis situations.

Managers and owners in the hospitality industry can demonstrate responsible leadership by actively supporting employees pursuing further education. They should also value and consider employees' suggestions for business improvements, treating all team members with respect and dignity. Ensuring fair wages that recognize and reward employees' efforts is crucial. Additionally, consistent rewards and recognition for contributions are essential practices (Sakshi et al., 2020; Olya et al., 2021). Moreover, maintaining transparent, honest, and ethical communication with all stakeholders is vital for fostering stronger relationships and enhancing engagement with the business, especially during times of crisis (García et al., 2022). These actions collectively contribute to a supportive and empowering work environment, where employees feel valued and motivated to contribute to the organization's success.

In addition to managing their hospitality businesses, sector managers and owners can significantly enhance the local environment through responsible leadership principles and practices. This involves actively engaging in community activities and societal events to improve the quality of life for residents. They can provide financial assistance, such as donating to worthy causes and supporting local education initiatives. Moreover, organizing campaigns to promote healthy eating in schools, colleges, and other community settings can have a positive impact. It is crucial to critically assess the restaurant's social impact and integrate supply chain management with corporate responsibility. These actions collectively contribute to the community's well-being and underscore a commitment to social responsibility (Jang & Zheng, 2020; Modica et al., 2020; Shi & Tsai, 2020; Elkhwesky et al., 2022b).

Resilient leaders in hospitality prioritize continuous training for their staff, ensuring readiness for various crisis scenarios and equipping them with essential skills. By fostering a culture of sharing insights and experiences in crisis management, teams can learn from past incidents, enhancing their ability to respond swiftly and cohesively to emerging situations. Customized strategies and intervention measures, rooted in resilient leadership principles (Zhang et al., 2023), are critical for effective contingency planning. Leaders must adeptly identify potential threats during routine management, bolster early warning systems, and develop comprehensive contingency plans. During crises, hospitality firms should empower leaders with sufficient resources and autonomy to manage emergencies effectively, ensuring orderly and efficient responses. This proactive approach not only enhances preparedness but also strengthens the organization's resilience in challenging times.

Leaders must be vigilant in identifying risk signals by closely monitoring changes in the external environment and adjusting their strategies accordingly. In terms of adaptive instructing, leaders should take decisive action during crises, motivating and rallying employees and teams to collaborate effectively in addressing threats. For contingency control, leaders should implement a robust assessment and supervision system, clearly define job responsibilities, and establish reward programs to manage employee behaviors during adversity. Additionally, in emergency care, leaders should develop an "employee care plan" to foster a supportive, inclusive, and open internal environment during crises, and actively engage in emotional communication with affected groups, including employees, customers, and communities. For recovery and growth, hospitality firms should incorporate performance recovery, management efficiency enhancements, employee learning initiatives, and leader self-improvement into their performance assessment systems during times of adversity (Zhang et al., 2023). By integrating these strategies, leaders can effectively navigate crises, support their teams, and drive their organizations toward recovery and growth.

However, this proactive approach minimizes operational disruptions and fosters a sense of preparedness among organizational members. Sharing knowledge allows for a comprehensive analysis of responses, identification of areas for improvement, refinement of crisis management plans, and the development of strategies to enhance future preparedness. Simultaneously, leaders should provide the necessary resources and information, empowering individuals and teams to take the initiative and be self-leading (Stewart et al., 2019). In the hospitality sector, managers should prioritize establishing robust internal marketing and knowledge-sharing communication channels. This approach helps employees

effectively utilize digital technologies, fostering connections with colleagues and building relational networks, thereby mitigating the potential drawbacks associated with remote work (Leo et al., 2023).

Moreover, implementing digital transformation within a firm aids management in establishing a resilient remote work infrastructure, ensuring seamless business operations during crises. This involves securing access to essential technologies and implementing policies that facilitate remote work while upholding data integrity. Digital technology plays a pivotal role in empowering managers to enhance communication and collaboration among diverse departments, advocating for a holistic approach to knowledge dissemination and effective crisis management. To maintain this balance, managers must regularly evaluate digital strategies and technologies, ensuring they meet the organization's evolving needs and prepare for unforeseen obstacles. It is crucial to update and modify these technologies based on user input, technical developments, and lessons learned from past crises. By doing so, businesses can leverage digital transformation to balance internal knowledge sharing and crisis management, promoting adaptability and resilience in the face of adversity.

Nonetheless, service-oriented firms can establish crisis-management protocols that utilize digital transformation to sustain their service operations. This research suggests that hospitality managers can leverage digital transformation to reshape workplace frameworks, focusing on both human-centric and technology-driven organizational and service designs. By implementing virtual relational systems through digital transformation, managers can enhance service preparedness, responsiveness, and recovery, ensuring operational resilience during severe crises (Leo et al., 2023). Incorporating real-time messaging apps like Slack for employee communication and offering virtual customer service training modules are effective strategies for enabling service employees, particularly in sectors like retail and hospitality where customer interaction is crucial. These initiatives help prepare employees to respond effectively during crises through crisis management simulations and enhance customer relationships via platforms like social media messengers for personalized interactions. Beyond crisis readiness, human resource practices in service firms play a vital role in fostering awareness of appropriate digital behaviors among employees. Developing digital guidelines and leveraging new technologies to streamline service workflows can mitigate disruptions caused by the shift from physical to digital service environments (Rosenbaum & Russell-Bennett, 2021). For instance, guidelines that balance digital and face-to-face interactions can significantly improve overall service quality and adaptability in a digitalized service economy.

Limitations and future research directions

Despite providing a thorough analysis to gain insights into the research issues addressed in our study, we acknowledge several limitations that future researchers should consider. First, our research relied on self-reported data from a single source to measure all constructs, raising concerns about common method bias (CMB). However, our procedural and empirical methods demonstrated that CMB is not a significant problem in this study. Future research should consider employing data collection methods from multiple sources to further mitigate this issue. Additionally, since our study predominantly relied on quantitative analysis and survey data collection, its findings might not be easily generalizable. This limitation is further compounded by the restriction of a limited sample size. Future research could benefit from larger sample sizes to achieve a more comprehensive and balanced understanding of the relevant topics. Despite these limitations, our study is exploratory and opens avenues for further investigation. Future researchers can build upon the sub-themes developed through our investigation in their inquiries, contributing to a deeper understanding of the subject matter.

Moreover, our findings can be applied to various types of crises, enhancing the understanding of crisis management across different contexts. A review of leadership challenges during crises highlights the need for further investigation. With only a limited number of studies addressing leadership roles during such challenging times, there is ample opportunity for researchers to delve into specific sectors, such as health, banking, and others. Each sector faces unique challenges that warrant focused studies to fill potential research gaps and provide significant findings. Conducting these investigations can offer a broader perspective on industry-specific issues, yielding additional or alternative sub-themes. Incorporating respondents from diverse backgrounds and a range of hospitality firms has the potential to generate more profound insights, enriching future research outcomes.

Author contributions

Raed Hussam Alzoubi spearheaded the conceptualization and methodological design, overseeing data collection, analysis, and initial manuscript drafting. Baker Shnaikat collaborated closely in refining the study design, participating in data acquisition, and contributing substantive revisions to the manuscript. Maisoon Abo Murad lent expertise in statistical analysis, aiding in data interpretation and methodological refinement, while also engaging in critical manuscript review. Rami Al kloub contributed substantially to the theoretical underpinnings of the study, guided data collection efforts, and provided valuable insights into the practical implications of the findings. Maen Alhmesat played a pivotal role in study design, data acquisition, and analysis, as well as providing constructive feedback on manuscript drafts. Omar Hamdan Mohammad Alkharabsheh, drawing on specialized knowledge, contributed to the study's conceptualization, data analysis, and manuscript refinement.

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About the authors

Dr Raed Hussam Alzoubi is an Assistant Professor at the Department of Administrative Sciences, AL-Balqa Applied University, Salt 19117, Jordan. He received his PhD in Business Management/Crisis Management from the College of Graduate Studies, Universiti Tenaga Nasional (UNITEN), Malaysia. His main research interest is in business management, specifically focusing on green HRM practices, crisis management, organizational performance, leadership styles, and employee performance within public and private enterprises.

Dr Baker Shnaikat is an Assistant Professor at the Department of Administrative Sciences, AL-Balqa Applied University, Salt 19117, Jordan. He received his PhD in Economics from the College of Graduate Studies, University of Jordan, Jordan. His main research interests include economic crisis.

Dr Maisoon Abo Murad is an Assistant Professor at the Department of Administrative Sciences, AL-Balqa Applied University, Salt 19117, Jordan. He received his PhD in Crisis Management from the College of Graduate Studies, Universiti Teknologi Malaysia (UTM), Malaysia. Her main research interests include crisis management, organizational culture and leadership.

Dr Rami Al kloub is an Assistant Professor at the Department of Administrative Sciences, AL Balqa-Applied University, Salt 19117, Jordan. He received his PhD in Geography from the College of Graduate Studies, University of Jordan, Jordan.

Dr Ma'en Alhmesat is an Assistant Professor at the Department of Administrative Sciences, AL-Balqa Applied University, Salt 19117, Jordan. He received his PhD in Strategic Management from the College of Graduate Studies, Mutah University, Jordan. His main research interests include human resources management.

Omar Hamdan Mohammad Alkharabsheh is an Assistant Professor at the International Business Department, Universiti Tunku Abdul Rahman, Malaysia. His main research interests include human resources management and leadership.

ORCID

Raed Hussam Alzoubi  <http://orcid.org/0000-0002-1983-5783>

Maisoon Abo Murad  <http://orcid.org/0000-0002-1931-4056>

Data availability statement

Data and materials supporting this work can be accessed by request.

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